

FOR USERS OF THE BBC MICRO AND ELECTRON

Take Control:

Interfacing Techniques for User Port. RS423 and IEEE

Developing 6502 Ideas with Acorn's Own System

Desk Top Aids for Businessmen, Homing-In on Domestic Databases Swopping Keys for Joysticks, and the Game of Life.







Volume Two Number

Group Editor: Elspeth Joiner
Acting Editor: Mark Webb
Editorial Assistant: Ione Holmes
Software Assistant: Simon Rockman
Advertising Manager: Barry Bingham
Sales Executive: Jonathan McGarry
Chief Executive: TJ Connell

News 0
More of the latest add-ons, software releases and information
to help you get the most from your computer.

A&B Computing is constantly on the look-out for well-written articles and programs for publication. If you feel that your efforts meet our standards, please feel free to submit your work to us for consideration for publication.

All submitted material should be printed or typed, double spaced. Any programs submitted should be listed 65s character width emphasised if possible). A cassette of the program alone will not be considered. All programs must come complete with a full explanation of the operation, and where relevant, the structure. We also require the program in machine readable form (cassette, 40 track 5½°, or 3° disc) plus any sultable screen photographs, printer dumps and so on.

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How good is Acorn's book-keeping program?
Life
Sorting On Index
CRTC Under Control
Developing Ideas On 650255 A detailed look at Acornsoft's 6502 development system.
ROM Report
Buggy Briefing65 The Economatics Buggy becomes more versatile with a Penkit



One January 1985

Published by Argus Specialist Publications Ltd., Number One, Golden Square, London W1R 3AB. Tel: 01 437 0626.

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Educational programs for students of all ages.

Create Your Own Adventure World 90 Melvyn Wright's article concludes by explaining the importance of the story itself in a successful adventure game.



Software Reviews All the latest programs for the BBC and Electron.

Down To Business..... The Miracle WS2000, Pace Nightingale and Prism 1000 modems compared as executive aids.

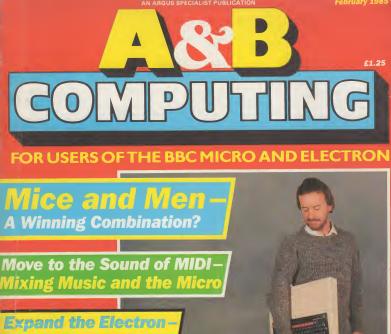
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Software Listings......112 A guide to the multitude of programs available for your computer.

A&B Computing is published monthly on the first Friday of the month preceding cover date. Distributed by: SM Distribution Ltd, 16-18 Trinity Gardens, London SW9 8DX. Telephone: 01-274 8611. Printed in the UK by Garnett Print, Rotherham and London

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Disc Drives are here

PLUS:

A Nightingaie sings and travelling beyond the bounds of **BBC BASIC-Extension ROM**





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Cities Executive. 10 Conne

Elitism David Glew fights long and hard to earn his place among belite.
Beebword
Basic Extension Rom
Project Mouse
Firm Control
Phloopy
Down To Business
Bouncer
Software Reviews
Grand Priv Racer 64

Fast 3D thrills in this exciting game.

Random Access..........

Dave Carlos unravels your disc problems.



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almer Published by Argus Specialist Publications Webb Ltd., Number One, Golden Square, London olmes W1R 3AB. Tel: 01 437 0626.

athan All work for consideration should be sent to Garry the Editor of A&B Computing at our Golden onnell Square address.



A bumper selection of reading material to help you make the most of your micro.
Educational programs for all.
1984

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Make your own machine code music.	Į

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Use BASIC tokens instead of function keywords to increase your Beeb's computing capacity.
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A computer aptitude test to tingle the nerve ends and tangle your reactions.

Why your micro may show signs of intelligence but not live up to them.

How Mining is catching on as a games activity!

The ABCs compared with immediate business rivals such as the IBM PC and ACT Apricot ranges.

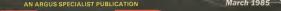
Meet Spiderman looking for the Garden of Eden in a Maze down at Arendarvon Castle - software sector.

The Electron gets a section all to itself.

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Bookshelf........



COMPUTING 51.25

FOR USERS OF THE BBC MICRO AND ELECTRON

Disassemble Your Brain!

-a unique opportunity

Electron Extra

-essential reading

Making the Most of your Micro

-with BASIC, Assembler and Logo fun

Futures

-machine intelligence debugged

PLUS:

Can the ABCs compete? Econet Level 3 in Action and Software to Blow Your Socks Off!



News . 6 Keeping you in touch with the latest developments for your micro. Soft Sector . 10 We review some of the software you can expect to find on the shelves for your BBC and Electron. 16 Disassemble Your Brain . 16 A unique and fascinating program utilising the computer to help further your understanding of how the brain works. Intelligent Systems and the Micro . 22 Is the Beeb capable of artificial intelligence? Bouncer . 26

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Questions and Answers34

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At last we bring you the program that allows you to define your own command keys for games and replace keyboard controls
with joueticks

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Assistant Advertising Manager: Jonathall worl
McGarthe Edit

Chief Executive: TJ Connequare

Making the most of Assembly.....5an your land introduction to assembler for newcomers to machine codersona

Electric Software.

The Beeb's baby brother loses out in the software stakes Advance there are still many titles available. We've gathered togeths extract recent releases.

Acornsoft aim to lead the way in home education software the RS42. the BBC and Electron.

Is Acornsoft's Logo the definitive version?





r Three March 1985

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Code Portfolio. . . 6_et's Get Serial ware fine RS423 serial port can be used for connection to a printer. Ve show you how. putiniee space with our fascinating program displaying planetary . 6 rbits

ogethan extract from Bruce Smith's book The BBC Micro Machine



A Nightingale Sings......92 Pace combine their Nightingale modem with Commstar's ROM to create an interesting communications package.

Analyser.... A pair of computer aided design programs for everyone from the home hobbyist to the professional circuit engineer.

Beebword......98 Our computer-based crossword.

Your comments, hints and suggestions. Keep them coming. HCCS and Computerphile versions of Forth compared and

contrasted

The traditional scissor-stone-paper game adapted for the Beeb. Software Listings......112

Want a new program? Check out our guide to what's available for the BBC and Electron.

NEST MONTH

An issue packed with features on nicros in education.

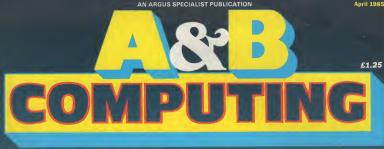
- high level networking with hard disc based Econet level 3.
- listings to type in to make
 - learning fun.
- a Mode 7 toolkit to fully exploit Teletext.

Music500 in the recording studio and much much MORE.

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FOR USERS OF THE BBC MICRO AND ELECTRON

Networks in Action — Level 3 Econet in Education

Generate **Your Own Educational** Programs -Listings and Utilities

Microworlds -The Challenge of LOGO

We Take Music 500 into The Recording Studio

A complete Mode 7 toolkit. **BASIC** converter. machine code plotting, scrolling and printing



The first supergame of '85 from Micro Power



News
Soft Sector
Trudy's Cottage
Micro Class
Edword Explored



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Mode 7 Pixel Plotting	6
Random Access	4
BASIC Maker	6

Disc Users turn to this page!
BASIC Maker
Teletext Translation
Bingo
Alpha
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Econet in Action

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An opportunity for teacher subject.	or	parent	to	help	out	with	a	tricl	</th
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Four April 1985

Parles Vous Logo?

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NEXT MONTH

Putting your micro to WORK. We'll be telling you how to get your BBC/Electron to do the hard graft. Software for database, mail list and integration with Wordwise. Reviewed: Wordwise Plus, Accounts software, Penman and the complete Solidisk double density disc upgrade, including packaged software. Value from your microcomputer with A&B.

Ttext - Scroll it!......91 Super smooth scrolling text and graphics for all types of

As the Logos come on line, we ponder on their use in schools.
Chart
Micro Class
Teletext Control Characters
Symphonic Overtones



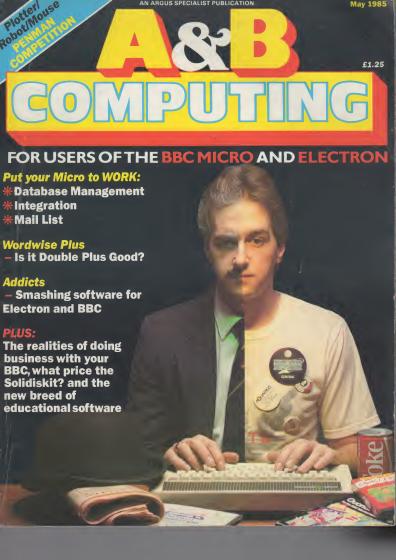
	display.
3	Edsoft
5	Making the Most of BASIC
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Complete this testing adventure trail and we will want to know

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REGULARS

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Cover Design

edition.
Down to Business
Software Reviews
Software Listings
FEATURES
Back from the Brink
Doubling Up
Ultracalc 2

A comprehensively updated spreadsheet suitable for BBC and

Adaptable AMPLE moves into a London studio to produce our

super tape offer.

Kontiki and Viking England packages help make this an exciti-

Edsoft...



Five May 1985

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gram.)ro
Mail List. Create your own mailing list and lighten one of the main burd of business.	
Integrate Code to integrate wordprocessing and database functions. B View and Wordwise supported.	
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NEXT MONTH

Digital Interfaces.

Bouncer...

Global View - stunning graphical reproductions of mother earth. Relaxing with Biogram. Cumana's Electron disc interface. Torch Graduate and the famous XCHANGE package. Coming soon... Adventure in Xanadu - am exciting start for our sensational Adventure generator.

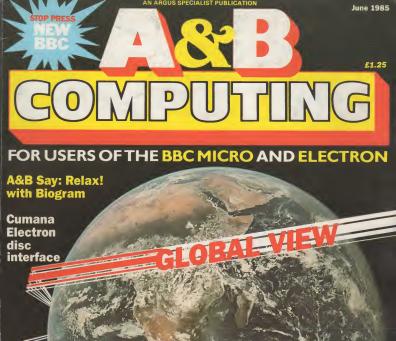
What best suits the laboratory Beeb? Interfaces on test. A combination of functions. But does that mean compromise?

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PLANET EARTH

Torch Graduate – IBM compatible?

PLUS:

A Demon Modem, Payroll Software, Rolosatel Assembler, Logo, Electron Plus 3



Cover Photograph courtesy of NASA

REGULARS

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Going East
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NEXT MONTH

Don't miss Xanadu, the first adventure to be born within Adventurescape, the adventure generator listed in our July issue. It's a fascinating challenge.and, if you choose to imagine, design and produce your own adventure you could win an Electron as well as being honoured within our pages.

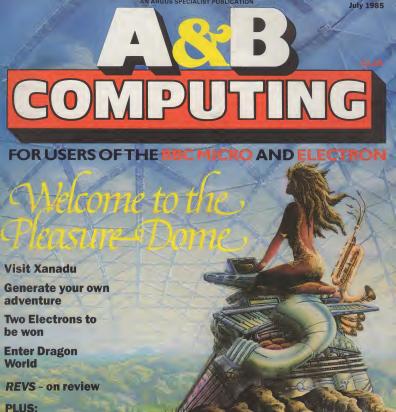
Dragonsworld will win you over, Touchtech, the touchscreen, will demand your interest and Feed-

back will keep you informed.

Down to Earth is an equally inspiring follow up to Global View and there is a whole host of reviews, of hardware, firmware and software. Don't miss it.

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Hard Discs, Wordwise Plus programming, Making the Most of Logo, Down to Earth, Feedback—new reads.



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Seven July 1985

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Proving one of the most popular statistics programs for the BBC. Grafix.

> Graphito and Tesselator form a dynamic duo for screen design.

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Adventurescape... Imagine an easy to use Adventure Designer for BBC

and Electron. It enables you to use full flowing descriptions, to set puzzles and lay traps, to carry and wear objects. Here it is, and more.

Down to Earth Gravity plays its part in a follow up to Global View.

Wordwise Plus BASIC Editing A BASIC program editor for the new wordprocessing

Computer Hint

Computer Aided Origami? It was no joke!

Jingle Composer..

Write, edit, playback, record, Once produced, tunes can be incorporated in your own program.

Next Month

Attractive computer graphics are quickly making their mark in many walks of life, for practical presentation of facts,

for games and for computer fine art. In the August issue of A&B Computing, out on the 5 July, you will be able to sample some sensational computer graphics, beginning with the cover. There are features on how it's done, and how you can do it too. There's also some terrific software to let you create cartoon characters, accurate line drawings, three dimensional objects and much more. Plus a review of the official Acornsoft Graphics Extension ROM.

NEW: Unique to A&B Computing - a foolproof method of entering program listings!

From next month all listings will contain a simple vet thorough error checking system, line by line. Find out how it works in next month's issue.

Wordwise Plus is turning out to be so much more than just a wordprocessor. Jonathan Evans has produced some highly practical software exploiting the interactive abilities of the program.

Alan Rowley begins his expert look at events.

Jon Vogler bring you some of the finer aspects of business computing with the help of the Torch Graduate

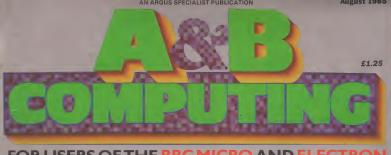
Trevor Attewell gives the tracker balls a tru. How easy do they make it to work with the micro?

Gordon Taylor combines an Acorn Winchester disc and Viewstore, the latest ROM addition to the View family with...what results? Find out next month.

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FOR USERS OF THE BBC MICRO AND ELECTRON

Graphic Design-How it's done

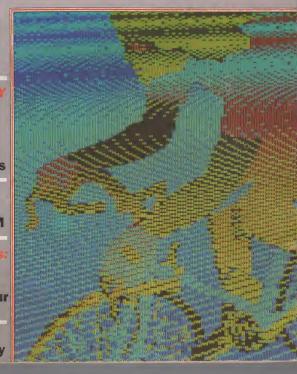
- Ikon
- Mosaic
- **CADpack**
- **Touch of Class**

Graphics

Extension ROM

AMX Utilities, AMX Desk, Watford's Colour Art

joins the family





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Volume Two Number

Editor: Mark Webb Assistant Editor: Fiona J Eldridge Software Assistant: John Donovan Group Editor: Wendy J Palmer Advertisement Manager: Jonathan McGarry Publishing Director: Peter Welham Chairman: Jim Connell

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COETHADE

JOI I WHILL
Cadpack16
Tackle quite complicated technical drawings
with our computer aided design program. Events
Make an event of it - expert programming
advice from Alan Rowley. Mosaic
Create lively graphic images and cartoons on
your Beeb. Touch of Class39
Impress your friends and business associates with a personalised letterhead designed on
your computer. Ikon
A&R's your own broad of mouse software

Design a Diesel 96 Technical design made simple.

Next Month

Get it right! Exorcise program typing errors with A&B's own program verifier that checks your typing line by line!

Microcomputers in photography - special feature that shows you how.

Ally Pally - make an exhibition of yourself with our original adventure game.

Beebug's MUROM - for music while you work?

Jon Vogler on mail merging.

More eventing with Alan Rowley.

More bite to your BBC - the Watford RAM board reviewed.

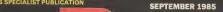
Plus: Random Access, Feedback, Making the Most of..., the latest soft and hardware reviews and more.

September issue of A&B Computing — on sale 2nd August.

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FOR USERS OF THE BBC MICRO AND ELECTRON

MICRO EYE

Computer aided slide photography

DOWN TO BUSINESS

Mail merging made easy

GET IT A RIGHT! Unique program verifier

MERLIG'S MUROM

Music while you work

PLUS

Watford RAM board, Events, Ally Pally, Design and programmin f Educat Software, Fe

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A&B Computing is constantly on the look-out for well-written articles and programs for publication. If you feel that your efforts meet our standards, please feel free to submit your work to us for consideration for publication.

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Mail Merging is a vital business operation. The BBC offers many options but which one to choose?

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Publishing Director: Peter Welham

Concluding Alan Rowley's look at software "butting in".



Nine September 1985

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S	Intersheet88
n	The best so far? It looks as though Computer Concepts have done it again.
0	

A friend indeed. A specialist plotter for the BBC,

Plotmate.....

SOFTWARE

Well worth the wait. Error free entry of program listings. Highly

practical. Automatic generation of check sum on line entry. Compressing Clever92

Dave Carlos has been busy writing a new book. Here's a very useful extract.

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The first 32K upgrade for the Model B.

Ally Pally

Taking on the crowds, and the kids! at an Acom exhibition.

Android100

Target practice on a desolate alien planet.

NEXT MONTH

Programming in the Shadows - Alan Rowley on how to fully utilise that extra memory and the Aries 32K board. Is it an upgrade to BBC Plus, or better? Electron ROM software. The latest Slogger Starword and Starstore, plus the Wizard Joystick interface.

Hard disc breakthrough - Solidisk's amazing Winchester package.

Video graphics. The background to the most exciting Beeb visuals we've seen.

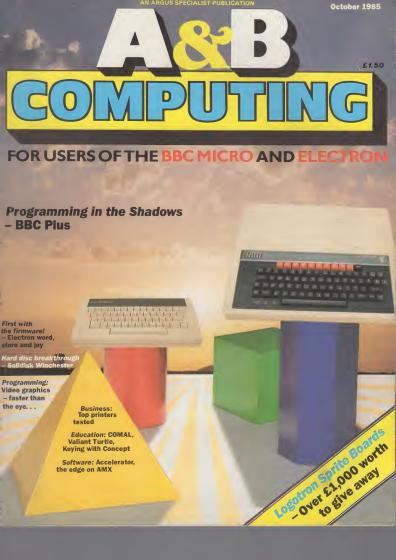
Top printers tested. 80 important criteria.

Accelerator, AMX edge detector utility, Valiant turtle, keying with Concept and computers in the classroom.

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	Valiant TurtleJohn Henderson's touching tale of a t that went to school	urtle
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	Valiant Turtle	28 74 world
	Valiant Turtle	urtle 28 74 world

Complete the puzzle, extend the fuse and BANG! You've won

a Confuzion T-shirt.



Ten October 1985

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Sideways Stepping

What's happening in Sideways RAM.

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Grisley Gardens

Weird wanderings in a seemingly ordinary suburban back garden.

The Edge on AMX Sophisticated edge detection, made practical with an AMX

application. Delivery.....

Not to be missed. Designed for kids, fun for all, a game but educational. The dialogue is humourous and varied, the scenario realistic. An open ended package requiring and instantly gaining the attention of children.

NEXT MONTH

Communicator - Acorn's latest machine. The latest news

List processing, Logo, children and words.

Acornsoft's Home Education suite including ABC and Talkback.

Double Dutch — take a piece of Beatles Music or French text, have your BBC or Electron analyse it and then...

An £8 speech synthesiser for you to build + sophisticated software.

Notes on MIDI, the ergonomics of the electronic office, interactive printer character design, Printer Buffer, an Adventurescape text editor and BASIC utilities

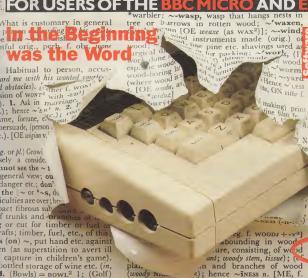
Software: Full-feature machine code wordprocessor for BBC and Electron. Amnesia — almost 100K of Adventure challenge.

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AN ARGUS SPECIALIST PUBLICATION ITC-SONG wool); inineral (as excl.) I very much doubt it. nymph, (1) dryac humming-bird ar subjected to strong blas Marvellous, surprising walls etc.). 6. ~-cardin etter than) what was expected by which short, long pirable; hence ~LY? adv. [O spinning; ~-dyed, DY NDER¹, -FUL)]
) a. & adv. (poet. or rhet.) 1 lanolin; | ~-fell, skin fuer still on; ~-gatherin only). Wonderfully (won. who breeds the pior



club. 5. ~ alcohol, methyl wood + -Y²]

Acomsoft's Talkback, ABC Reviewed er. See woo. List Processing – Logo, children

Pure His annung and 14 Sau Notes on MIDI – Powertran, Siel m) engraving made on wood;

n who cuts wood. (2) maker softness, wavy structure, and scaly surface.

38C PLUS 128K INSIDE DOO BBC PLUS 128K INSIDE DOOR hat hores in wood: ~-fibre.

woof n. = WEFT !. [OE owef, alt. f. owebb (after wefan WEAVE1) f. as A- 1, WEB; w- f. assoc. w. warp] woof² n., & v.i. (Give) gruff bark of dog; hence

~'ER1 n., loudspeaker for accurately reproducing low-frequency signals (cf. TWEETer). [imit.]

wool n. 1. Kind of hair distinguished by fineness,

occurring mixed with ordinary hair in coat of

of wool, esp. from sh fabric, as blanket flan
Interactive Printer
Character Design
Adventurescape

a. Bei

Text Editor ASIC utilities sembli (Paint.) lacking in d incisiveness; (of mind hazy; wild and woolly 5. n. Woollen garme *undergarment. [f. w woo'mera n. (Austra -stick for dart or spea [Aboriginal]

*woo'z y a. (colloq.)] slightly drunk; vag ~INESS n. [19th c., of Var. of whop.

op2 n. (s pean, esp. unkn.] Worcester ste. pungent sa tr

Englandl Worcs. abbr Englanc word1 (wer AK of Adv sounds sr customarily of it but no ap ap element of native ideas of, the who r a SSI basic unit of in compute

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BBC 128K 7
Gordon Taylor maps out the memory and explains how, why and $whatyou$ can do with the extra RAM.
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More tapes and discs to choose from. There's an attractive package for BBC Plus owners and great value utilities as well as the Amnesia Adventure and Easyword machine code wordprocessor.

Articles in the next month column are in an advanced state of preparation but cannot be guaranteed to appear.

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psychological thriller which should keep you glued to the keyboard. In the Shadows...

Alan Rowley follows up Programming Plus with routines to make full use of shadow RAM. This month it makes room for a multiple choice question marker program.



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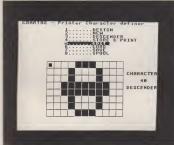
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Easy	word	١	 	 78
_	4.4			

Our machine code wordprocessor for BBC Micro or Electron. Easy to use and easy on the pocket! Documented in full.

Keyboard Vultures ...

A typical tale of woe, recogniseable in BBC Micro households throughout the country.



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Charting Success ...

Computer Concept's Interchart described in graphic detail Gordon Taylor.

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Deathstar . Superior's marvellous new space fantasy. More than a touch

of originality in the classic arcade style.BBC and Electron. ROMSPELL.

Spellchecker Clive Grace feeds Watford's firmware with a word or two and it all comes out 100% Queen's English!

Homework . . Talkback, ABC and Workshop are brand new educational packages from Acornsoft. They employ the finest

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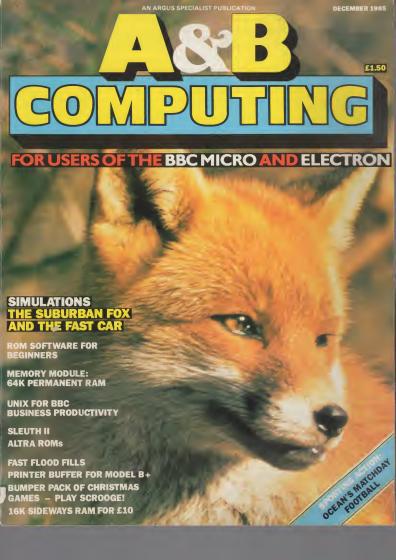
The beginning of a series on producing three dimensional images with BBC and Electron graphics.

BASIC Companion. 85 Friendly helpmate for BASIC programmers. A full range of

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A versatile character designer for dot-matrix printers.

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Des Thomas takes a trip to the race track in Fast Cars — Maths in Motion and into the sometimes dangerous world of Sly the Suburban Fox.



Twelve December 1985

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